WHAT IS CLAIMED IS:

1. A method of analyzing a fluid sample from a reservoir comprising:

collecting the sample in a sample container,

wherein the sample container includes a sample receptacle, and

wherein the step of collecting comprises allowing or causing the sample to flow into the sample receptacle;

determining at least one property of the sample using an analyzer, wherein the analyzer is located at one end of the sample receptacle,

wherein the step of determining comprises:

(A) contacting the sample with radiated energy; and

(B) detecting the interaction between the radiated energy and the sample,

wherein the step of determining is performed during the step of collecting, and

wherein the step of determining is performed during fluid flow of the sample into the sample receptacle.

2. The method according to Claim 1, wherein the step of collecting comprises placing the sample container into a well.

3. The method according to Claim 1, wherein the at least one property is selected from the group consisting of: asphaltenes; saturates; resins; aromatics; solid particulate content; hydrocarbon composition and content; gas composition $C_1 - C_{13}$ and content; carbon dioxide gas; hydrogen sulfide gas; and correlated pressure, volume, or temperature properties including fluid compressibility, gas-to-oil ratio, bubble point, density,

a petroleum formation factor, viscosity, a gas component of a gas phase of a petroleum, total stream percentage of water, gas, oil, solid particles, solid types, oil finger printing, reservoir continuity, and oil type; water elements including ion composition and content, anions, cations, salinity, organics, pH, mixing ratios, tracer components, contamination; or other hydrocarbon, gas, solids, or water properties that can be related to spectral characteristics, including the use of regression methods.

4. The method according to Claim 1, wherein the analyzer is an optical analyzer.

5. The method according to Claim 1, wherein the determination of the at least one property of the sample is performed using spectroscopy.

6. The method according to Claim 5, wherein the spectroscopy is selected from the group consisting of absorption spectroscopy, fluorescence spectroscopy, X-ray spectroscopy, plasma emission spectroscopy, spark or arc (emission) spectroscopy, visible absorption spectroscopy, ultraviolet (UV) spectroscopy, infrared (IR) spectroscopy (including near-infrared (NIR) spectroscopy, mid-infrared (MIR) spectroscopy, and far-infrared (FIR) spectroscopy), Raman spectroscopy, coherent anti-Stokes Raman spectroscopy (CARS), nuclear magnetic resonance, photo emission, Mossbauer spectroscopy, acoustic spectroscopy, laser spectroscopy, Fourier transform spectroscopy, and Fourier transform infrared spectroscopy (FTIR) and combinations thereof.

7. The method according to Claim 1, wherein the analyzer comprises a source of the radiated energy and a detector.

8. The method according to Claim 7, wherein the detector is capable of detecting the interaction between the radiated energy and the sample.

9. The method according to Claim 8, wherein the step of determining the at least one property of the sample further comprises transmitting data from the detector to a computer.

10. The method according to Claim 7, wherein the source of the radiated energy is emitted in a desired wavelength or range of wavelengths.

11. The method according to Claim 10, wherein the desired wavelength or range of wavelengths is selected such that the at least one property of the sample can be determined.

12. The method according to Claim 1, further comprising the step of determining two or more properties of the sample.

13. A method of analyzing a fluid sample from a reservoir comprising:

collecting the sample in a sample container;

transferring the sample from the sample container to a second container,

wherein the step of transferring is performed after the step of collecting; and

determining at least one property of the sample using an analyzer,

wherein the step of determining comprises:

(A) contacting the sample with radiated energy; and

(B) detecting the interaction between the radiated energy and the sample,

wherein the step of determining is performed after the step of collecting, and

wherein the step of determining is performed during fluid flow of the sample.

14. The method according to Claim 13, wherein the step of determining the at least one property of the sample is performed during the step of transferring the sample.

15. The method according to Claim 13, wherein the second container is a storage or transportation container.

16. The method according to Claim 13, wherein the sample is transferred to the second container via a tube.

17. The method according to Claim 16, wherein the analyzer is positioned adjacent to the tube.

18. The method according to Claim 13, further comprising the step of transporting the sample off-site, wherein the step of transporting is performed after the step of determining.

19. The method according to Claim 13, wherein the at least one property is selected from the group consisting of: asphaltenes; saturates; resins; aromatics; solid particulate content; hydrocarbon composition and content; gas composition C_1 – C_{13} and content; carbon dioxide gas; hydrogen sulfide gas; and correlated pressure, volume, or temperature properties including fluid compressibility, gas-to-oil ratio, bubble point, density, a petroleum formation factor, viscosity, a gas component of a gas phase of a petroleum, total stream percentage of water, gas, oil, solid particles, solid types, oil finger printing, reservoir continuity, and oil type; water elements including ion composition and content, anions, cations, salinity, organics, pH, mixing ratios, tracer components, contamination; or other hydrocarbon, gas, solids, or water properties that can be related to spectral characteristics, including the use of regression methods.

20. The method according to Claim 13, wherein the analyzer is an optical analyzer.

21. The method according to Claim 13, wherein the determination of the at least one property of the sample is performed using spectroscopy.

22. The method according to Claim 21, wherein the spectroscopy is selected from the group consisting of absorption spectroscopy, fluorescence spectroscopy, X-ray spectroscopy, plasma emission spectroscopy, spark or arc (emission)

spectroscopy, visible absorption spectroscopy, ultraviolet (UV) spectroscopy, infrared (IR) spectroscopy (including near-infrared (NIR) spectroscopy, mid-infrared (MIR) spectroscopy, and far-infrared (FIR) spectroscopy), Raman spectroscopy, coherent anti-Stokes Raman spectroscopy (CARS), nuclear magnetic resonance, photo emission, Mossbauer spectroscopy, acoustic spectroscopy, laser spectroscopy, Fourier transform spectroscopy, and Fourier transform infrared spectroscopy (FTIR) and combinations thereof.

23. The method according to Claim 13, wherein the analyzer comprises a source of the radiated energy and a detector.

24. The method according to Claim 23, wherein the detector is capable of detecting the interaction between the radiated energy and the sample.

25. The method according to Claim 24, wherein the step of determining the at least one property of the sample further comprises transmitting data from the detector to a computer.

26. The method according to Claim 23, wherein the source of the radiated energy is emitted in a desired wavelength or range of wavelengths.

27. The method according to Claim 26, wherein the desired wavelength or range of wavelengths is selected such that the at least one property of the sample can be determined.

28. The method according to Claim 13, further comprising the step of determining two or more properties of the sample.

WHAT IS CLAIMED IS:

1. A method of analyzing a fluid sample from a reservoir comprising:

collecting the sample in a sample container,

wherein the sample container includes a sample receptacle, and

wherein the step of collecting comprises allowing or causing the sample to flow into the sample receptacle;

determining two or more properties of the sample using an analyzer, wherein the analyzer is located at one end of the sample receptacle,

wherein the step of determining comprises:

(A) contacting the sample with radiated energy; and

(B) detecting the interaction between the radiated energy and the sample,

wherein the step of determining is performed during the step of collecting, and

wherein the step of determining is performed during fluid flow of the sample into the sample receptacle.

2. The method according to Claim 1, wherein the step of collecting comprises placing the sample container into a well.

3. The method according to Claim 1, wherein at least one property from the two or more properties is selected from the group consisting of: asphaltenes; saturates; resins; aromatics; solid particulate content; hydrocarbon composition and content; gas composition C_1 - C_{13} and content; carbon dioxide gas; hydrogen sulfide gas; and correlated pressure, volume, or temperature properties including fluid compressibility, gas-to-

oil ratio, bubble point, density, a petroleum formation factor, viscosity, a gas component of a gas phase of a petroleum, total stream percentage of water, gas, oil, solid particles, solid types, oil finger printing, reservoir continuity, and oil type; water elements including ion composition and content, anions, cations, salinity, organics, pH, mixing ratios, tracer components, contamination; or other hydrocarbon, gas, solids, or water properties that can be related to spectral characteristics, including the use of regression methods.

4. The method according to Claim 1, wherein the analyzer is an optical analyzer.

5. The method according to Claim 1, wherein the determination of at least one property from the two or more properties of the sample is performed using spectroscopy.

6. The method according to Claim 5, wherein the spectroscopy is selected from the group consisting of absorption spectroscopy, fluorescence spectroscopy, X-ray spectroscopy, plasma emission spectroscopy, spark or arc (emission) spectroscopy, visible absorption spectroscopy, ultraviolet (UV) spectroscopy, infrared (IR) spectroscopy (including near-infrared (NIR) spectroscopy, mid-infrared (MIR) spectroscopy, and far-infrared (FIR) spectroscopy), Raman spectroscopy, coherent anti-Stokes Raman spectroscopy (CARS), nuclear magnetic resonance, photo emission, Mossbauer spectroscopy, acoustic spectroscopy, laser spectroscopy, Fourier transform spectroscopy, and Fourier transform infrared spectroscopy (FTIR) and combinations thereof.

7. The method according to Claim 1, wherein the analyzer comprises a source of the radiated energy and a detector.

8. The method according to Claim 7, wherein the detector is capable of detecting the interaction between the radiated energy and the sample.

9. The method according to Claim 8, wherein the step of determining the two or more properties of the sample further comprises transmitting data from the detector to a computer.

10. The method according to Claim 7, wherein the source of the radiated energy is emitted in a desired wavelength or range of wavelengths.

11. The method according to Claim 10, wherein the desired wavelength or range of wavelengths is selected such that at least one property from the two or more properties of the sample can be determined.

12. A method of analyzing a fluid sample from a reservoir comprising:

collecting the sample in a sample container;

transferring the sample from the sample container to a second container,

wherein the step of transferring is performed after the step of collecting; and

determining at least one property of the sample using an analyzer,

wherein the step of determining comprises:

(A) contacting the sample with radiated energy; and

(B) detecting the interaction between the radiated energy and the sample,

wherein the step of determining is performed after the step of collecting, and

wherein the step of determining is performed during fluid flow of the sample, and

transporting the sample off-site, wherein the step of transporting is performed after the step of determining.

13. The method according to Claim 12, wherein the step of determining the at least one property of the sample is performed during the step of transferring the sample.

14. The method according to Claim 12, wherein the second container is a storage or transportation container.

15. The method according to Claim 12, wherein the sample is transferred to the second container via a tube.

16. The method according to Claim 15, wherein the analyzer is positioned adjacent to the tube.

17. The method according to Claim 12, wherein the at least one property is selected from the group consisting of: asphaltenes; saturates; resins; aromatics; solid particulate content; hydrocarbon composition and content; gas composition C_1 - C_{13} and content; carbon dioxide gas; hydrogen sulfide gas; and correlated pressure, volume, or temperature properties including fluid compressibility, gas-to-oil ratio, bubble point, density, a petroleum formation factor, viscosity, a gas component of a gas phase of a petroleum, total stream percentage of water, gas, oil, solid particles, solid types, oil finger printing,

reservoir continuity, and oil type; water elements including ion composition and content, anions, cations, salinity, organics, pH, mixing ratios, tracer components, contamination; or other hydrocarbon, gas, solids, or water properties that can be related to spectral characteristics, including the use of regression methods.

18. The method according to Claim 12, wherein the analyzer is an optical analyzer.

19. The method according to Claim 12, wherein the determination of the at least one property of the sample is performed using spectroscopy.

20. The method according to Claim 19, wherein the spectroscopy is selected from the group consisting of absorption spectroscopy, fluorescence spectroscopy, X-ray spectroscopy, plasma emission spectroscopy, spark or arc (emission) spectroscopy, visible absorption spectroscopy, ultraviolet (UV) spectroscopy, infrared (IR) spectroscopy (including near-infrared (NIR) spectroscopy, mid-infrared (MIR) spectroscopy, and far-infrared (FIR) spectroscopy), Raman spectroscopy, coherent anti-Stokes Raman spectroscopy (CARS), nuclear magnetic resonance, photo emission, Mossbauer spectroscopy, acoustic spectroscopy, laser spectroscopy, Fourier transform spectroscopy, and Fourier transform infrared spectroscopy (FTIR) and combinations thereof.

21. The method according to Claim 12, wherein the analyzer comprises a source of the radiated energy and a detector.

22. The method according to Claim 21, wherein the detector is capable of detecting the interaction between the radiated energy and the sample.

23. The method according to Claim 22, wherein the step of determining the at least one property of the sample further comprises transmitting data from the detector to a computer.

24. The method according to Claim 21, wherein the source of the radiated energy is emitted in a desired wavelength or range of wavelengths.

25. The method according to Claim 24, wherein the desired wavelength or range of wavelengths is selected such that the at least one property of the sample can be determined.

26. The method according to Claim 12, further comprising the step of determining two or more properties of the sample.